



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/687,672	10/20/2003	Tadayoshi Iwata	500.43223X00	9349

20457 7590 03/09/2007
ANTONELLI, TERRY, STOUT & KRAUS, LLP
1300 NORTH SEVENTEENTH STREET
SUITE 1800
ARLINGTON, VA 22209-3873

EXAMINER

REGO, DOMINIC E

ART UNIT

PAPER NUMBER

2618

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/09/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/687,672

Applicant(s)

IWATA ET AL.

Examiner

Dominic E. Rego

Art Unit

2618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 08/10/06, 10/24/05, 10/20/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 7 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The claimed limitations "after a switching event to a service area through said satellite before the switching event in said service area" are not found in the specification and this is non-enabling.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Refer to the limitations "after a switching event to a service area through said satellite before the switching event in said service area" in page 49, lines 9-11. Examiner states that above limitations are not comprehensive to facilitate prosecution of the case. Appropriate correction/clarification is required.

Specification

4. The disclosure is objected to because of the following informalities: Page 29, line 23, " the orbiting satellite 32 at 18:45 or time t13" should be the orbiting satellite 32 at 10:45 or time t13. Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Torkington et al. (US Patent #6,198,907).

Regarding claim 1, Torkington teaches a satellite-based signal receiving method comprising the steps of:

receiving a signal sent from a predetermined satellite of a plurality of satellites moving along respective non-geostationary orbits (col 2, lines 28-33) in a predetermined service area (Col 3, line 59-Col 4, line 2; Col 9, lines 1-10); and

switching said satellite used for receiving the signal at a timing determined for each said service area such that said satellite holds a predetermined elevation angle (Col 6, lines 6-11; Col 10, line 52-col 11, line 51).

Regarding claim 2, Torkington teaches a satellite-based signal receiving method, wherein the signal can be received for a predetermined time period both from

Art Unit: 2618

said pre-switching satellite and said post-switching satellite (Col 10, line 66-line 11: user terminal receives signals for a predetermined time period before cross over occur from first satellite to second satellite in order to maintain connection).

Regarding claim 3, Torkington teaches a satellite-based signal receiving method, wherein said predetermined time period extends from a time at which the elevation angle of said post-switching satellite reaches a predetermined angle to a time at which the elevation angle of said pre-switching satellite reaches said predetermined angle (Col 6, lines 6-21).

Regarding claim 4, Torkington teaches a satellite-based service providing method for providing users within a predetermined service area with at least one of a communication service and a broadcasting service utilizing a predetermined satellite of a plurality of satellites moving along respective non-geostationary orbits (col 2, lines 28-33; Col 3, line 59-Col 4, line 2; Col 9, lines 1-10), said method comprising the step of:

switching said satellite used for providing the service at a timing determined for each said service area such that said satellite holds a predetermined elevation angle (Col 6, lines 6-11; Col 10, line 52-col 11, line 51).

Regarding claim 5, Torkington teaches a satellite-based service providing method, wherein the service is provided for a predetermined time period both from said pre-switching satellite and said post-switching satellite (Col 10, line 66-line 11: user terminal receives signals for a predetermined time period before cross over occur from first satellite to second satellite in order to maintain connection).

Regarding claim 6, Torkington teaches a satellite-based service providing

method, wherein said predetermined time period extends from a time at which the elevation angle of said post-switching satellite reaches a predetermined angle to a time at which the elevation angle of said pre-switching satellite reaches said predetermined angle (Col 6, lines 6-21).

Regarding claim 7, as best understood 112 second, Torkington teaches a satellite control method for transmitting/receiving a signal utilizing a satellite selected from a plurality of satellites moving along respective non-geostationary orbits (col 2, lines 28-33; Col 3, line 59-Col 4, line 2; Col 9, lines 1-10), said method comprising the step of:

switching said satellite used for receiving a signal by transmitting information on the position of said satellite for use in transmission/reception of the signal after a switching event to a service area through said satellite before the switching event in said service area (Col 6, lines 6-11; Col 10, line 52-col 11, line 51).

Regarding claim 8, Torkington teaches a satellite control method, further comprising: transmitting, together with said position information, a command signal for instructing an earth station which utilizes said satellites to make an antenna compatible with said post-switching satellite (Col 8, lines 33-57).

Regarding claim 9, Torkington teaches a receiver terminal for receiving a signal from a predetermined satellite of a plurality of satellites moving along respective non-geostationary orbits (col 2, lines 28-33; Col 3, line 59-Col 4, line 2; Col 9, lines 1-10), wherein:

Art Unit: 2618

said receiver terminal is configured to be able to request a switching timing (Col 7, lines 31-40) from a first satellite to a second satellite during a predetermined time period when said satellite used for receiving the signal is switched from said first satellite to said second satellite (Col 6, lines 6-11; Col 10, line 52-col 11, line 51).

Regarding claim 10, Torkington teaches a receiver terminal, wherein said receiver terminal is configured to be able to request for a use of said first satellite even after said predetermined time has expired (*Col 6, lines 11-28: Torkington teaches when a user terminal has a link established with a southbound satellite (second satellite), the user terminal hands-off the link to a northbound satellite (first satellite) at or near a first crossover point. Also, when a user terminal has a link established with a northbound satellite, the user terminal hands-off the link to a southbound satellite at or near a second crossover point, so user can receive a northbound satellite signal as long as possible before hands-off occurs. Otherwise, signals won't be strong enough to communicate with a northbound satellite if hand-off does not occurs.*

Regarding claim 11, Torkington teaches satellite control apparatus for transmitting/receiving a signal utilizing a satellite selected from a plurality of satellites moving along respective non-geostationary orbits (col 2, lines 28-33; Col 3, line 59-Col 4, line 2; Col 9, lines 1-10), said apparatus comprising: a controller, operative when said satellite for transmitting/receiving a signal is switched from a first satellite to a second satellite (Col 7, line 60-Col 8, line 25), for controlling said satellites such that the signal can be received both from said pre-switching satellite and said post-switching satellite in a service area for a predetermined time period (*Col 10, line 66-line 11: user terminal*

receives signals for a predetermined time period before cross over occur from first satellite to second satellite in order to maintain connection); and a transmitter (Figure 7, element 720) for transmitting information for switching said satellite based on a request from a user for the predetermined time period (Col 6, lines 11-28: Torkington teaches when a user terminal has a link established with a southbound satellite (second satellite), the user terminal hands-off the link to a northbound satellite (first satellite) at or near a first crossover point. Also, when a user terminal has a link established with a northbound satellite, the user terminal hands-off the link to a southbound satellite at or near a second crossover point, so user can receive a northbound satellite signal as long as possible before hands-off occurs. Otherwise, signals won't be strong enough to communicate with a northbound satellite if hand-off does not occurs).

Regarding claim 12, Torkington teaches a satellite control apparatus, further comprising means, responsive to a signal for requesting to use said first satellite after said predetermined time period has expired, for determining whether or not the continuous use can be permitted, and communicating the result of the determination to an appropriate receiver terminal of the user (Col 6, lines 11-28: Torkington teaches when a user terminal has a link established with a southbound satellite (second satellite), the user terminal hands-off the link to a northbound satellite (first satellite) at or near a first crossover point. Also, when a user terminal has a link established with a northbound satellite, the user terminal hands-off the link to a southbound satellite at or near a second crossover point, so user can receive a northbound satellite signal as long

Art Unit: 2618

as possible before hands-off occurs. Otherwise, signals won't be strong enough to communicate with a northbound satellite if hand-off does not occurs).

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Seavey (US Patent #6,043,788) teaches low earth orbit earth station antenna.

Wang (US Patent Application Publication #2004/0110467) teaches method and apparatus wideband services using medium and low earth orbit satellite.

Karlsson et al. (US Patent #6,034,634) teaches terminal antenna for communications system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dominic E. Rego whose telephone number is 571-272-8132. The examiner can normally be reached on Monday-Friday, 8:30 am-5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on 571-272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

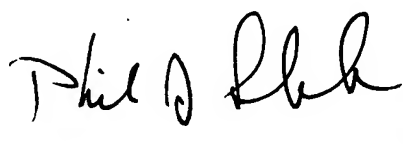
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic

Art Unit: 2618

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Dominic E. Rego


3/3/7

PHILIP J. SOBUTKA
PATENT EXAMINER